

Notice of Allowability

Application No.

10/040,535

Examiner

Charles Chow

Applicant(s)

TOLSON, NIGEL J.

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2618

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 4/28/2006.
2. ☒ The allowed claim(s) is/are 1-10.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

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Detailed Action

1. This office is for amendment received on 4/28/2006.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

Applicant has canceled rejected claims 11-12, and claims 1-10 were allowed in the previous office actions mailed 1/26/2006 & 1/13/2005.

Claims 1-10 are allowable over the prior art of record, the prior art fails to teach singly, particularly, or in combination, the subject matter, for the **first active twin-T filter in a first signal path defining a first sharp notch at the center of a second adjacent channel; and a first passive twin-T filter section coupled to receive output of the first active twin-T filter, defining a second sharp notch at the center of a next adjacent channel, to suppress spurious signals at frequencies of modulation product**, as shown in the independent claims 1, 6, 8, 11, for the miniature battery powered portable dual mode quadrature receiver (Fig. 1) for operating in different channel spacing, 30 to 200 KHz, in system for IS136, Amps, PCS, GSM, Edge frequency band, to efficiently removing unwanted image signal at the adjacent channel and next adjacent channel, by the sharper frequency response roll off characteristic of the twin-T filters. The dependent claims are also allowable due to their dependency upon the independent claims and having additional claimed features.

The closest patent to **Jayaraman et al. (US 2003/0087,622 A1)** teaches a filter circuit apparatus (410c) for removing upper and lower adjacent channel interference ACI (Fig. 4, abstract, [0011-0014]) for the CDMA super heterodyne quadrature demodulation (Fig. 2, [0027, 0023-0026]). Jayaraman et al. fail to teach the passive twin-T filter is coupled to the

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active twin-T filter to provide a second sharper notch at the center of the next adjacent channel.

West (US 3,577,179) teaches a active twin-T filter 10 in cascading with active Twin-T filter 50, 60 for providing sharp frequency notch response [Fig. 1, notch response curve for stage 2 in Fig. 2; abstract, col. 1, lines 16-42]. West fails to teach the passive twin-T filter is coupled to the active twin-T filter to provide a second sharper notch at the center of the next adjacent channel.

Other prior arts in below has been considered, but they fail to teach the above claimed features.

Murtojarvi (US 2002/0168,956 A1) teaches the active twin-T filter 8 coupled to the passive twin-T filter 10 (Fig. 7, [0066-0068]) for the sharper frequency notch filtering.

Anderson (US 3,579,135) teaches a twin-t notch filter (Fig. 1-6, abstract, col. 1, lines 5-53), the active bootstrapping topology configuration of the active twin-T filter, to sharpen up the filtering response curve (col. 4, line 5-20). Anderson teaches the improved stable active notch filtering network as shown in Fig. 2, with accuracy and efficiency for without tuning, for rejecting adjacent frequencies (col. 1, lines 11-32).

Daniels et al. (US 3,904,978) teaches the active twin-T filter for providing a fourth order transfer function for sharper attenuation of unwanted signal [abstract, Fig. 1, Fig. 6, col. 1, line 51 to col. 2, line 21].

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

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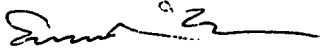
3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles Chow whose telephone number is (571) 272-7889. The examiner can normally be reached on 8:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Urban can be reached on (571) 272-7899. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Charles Chow 

May 8, 2006.


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